

AMENDMENTS TO THE CLAIMS

Please amend the claims of the present application as set forth below. In accordance with the PTO's revised amendment format, a detailed listing of all claims has been provided. This listing of claims will replace all prior versions and listings of claims in the application. Changes to the claims are shown by strikethrough (for deleted matter) and underlining (for added matter).

By way of overview claims 1-32 are currently pending. More specifically, the status of the claims is indicated below:

- a) Claim 9 is currently amended;
- b) Claims 1-8 and 10-29 are original; and
- c) Claims 30-32 are new.

Listing of Claims

1. (Original) A server system, comprising:
one or more computers;
an application executing on the computers to receive and process client requests;
and
a constraint system to constrain operation of the application according to multiple different constraints, the constraint system comprising a hierarchy of constraint layers, with each constraint layer containing a set of one or more constraints that customize operation of the application.

2. (Original) A server system as recited in claim 1, wherein the hierarchy comprises a constraint layer that contains legally mandated constraints to constrain operation of the application according to legal principles.

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2 3. (Original) A server system as recited in claim 1, wherein the hierarchy
3 comprises a constraint layer that contains company-mandated constraints to constrain
4 operation of the application according to preferences of a company that operates the
5 application.

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7 4. (Original) A server system as recited in claim 1, wherein the hierarchy
8 comprises a constraint layer that contains customer constraints to constrain operation of
9 the application according to preferences of customers.

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11 5. (Original) A server system as recited in claim 1, wherein the hierarchy
12 comprises a constraint layer that contains cultural constraints to constrain operation of the
13 application according to cultural aspects.

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15 6. (Original) A server system as recited in claim 1, wherein the hierarchy
16 comprises a constraint layer that contains end user constraints to constrain operation of
17 the application according to preferences of an end user.

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19 7. (Original) A server system as recited in claim 1, wherein the constraint layers
20 are organized within the hierarchy such that a first constraint layer limits a second
21 constraint layer but the second constraint layer does not limit the first constraint layer.

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23 8. (Original) A server system as recited in claim 1, further comprising a constraint
24 resolver to resolve the constraint layers so that operation of the application is constrained
25 by a sum of the constraints in the layers.

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2 9. (Currently amended) A server system comprising:
3 one or more computers; and
4 a multi-layer application executing on the computers to handle client requests, the
5 multi-layer application comprising:
6 a problem-solving logic layer to process the client requests according to an
7 associated problem domain, the problem-solving logic layer containing one or more
8 execution models to perform various sets of tasks when processing the client requests, the
9 problem-solving logic layer producing replies to the client requests;
10 a presentation layer to structure the replies produced by the problem-solving logic
11 layer in a manner that makes ~~them~~ the replies presentable on various client devices; and
12 a constraint hierarchy of multiple constraint layers, each constraint layer
13 containing a set of one or more constraints that specify how the replies should be
14 structured to customize the replies for specific sets of conditions.

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16 10. (Original) A server system as recited in claim 9, wherein constraint layers can
17 be selectively added or removed from the constraint hierarchy independently of other
18 layers in the multi-layer application to produce different sets of constraints.

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20 11. (Original) A server system as recited in claim 9, wherein the constraint
21 hierarchy comprises a constraint layer that contains legally mandated constraints that
22 constrain the presentation layer to structure the replies to comply with certain legal
23 principles.
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1 12. (Original) A server system as recited in claim 9, wherein the constraint
2 hierarchy comprises a constraint layer that contains company-mandated constraints that
3 constrain the presentation layer to structure the replies according to preferences of a
4 company that operates the application.

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6 13. (Original) A server system as recited in claim 9, wherein the constraint
7 hierarchy comprises a constraint layer that contains customer-oriented constraints that
8 constrain the presentation layer to structure the replies according to preferences of
9 customers.

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11 14. (Original) A server system as recited in claim 9, wherein the constraint
12 hierarchy comprises a constraint layer that contains cultural constraints that constrain the
13 presentation layer to structure the replies according to cultural aspects.

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15 15. (Original) A server system as recited in claim 9, wherein the constraint
16 hierarchy comprises a constraint layer that contains end user constraints that constrain the
17 presentation layer to structure the replies according to preferences of end users.

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19 16. (Original) A server system as recited in claim 9, wherein the constraint layers
20 can be removed or added to modify the set of constraints imposed on structuring the
21 replies.

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23 17. (Original) A computer software architecture embodied on one or more
24 computer-readable media, comprising:
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1 a constraint hierarchy of multiple constraint layers, each constraint layer
2 containing a set of one or more constraints that constrain operation of an application, the
3 constraint layers being organized within the constraint hierarchy such that a first
4 constraint layer limits a second constraint layer but the second constraint layer does not
5 limit the first constraint layer; and

6 a constraint resolver to resolve the constraint layers so that operation of the
7 application is constrained by a set of the constraints in the constraint layers.

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9 18. (Original) A computer software architecture as recited in claim 17, wherein
10 constraint layers are selectively added to or removed from the constraint hierarchy to
11 form different sets of constraints on the operation of the application.

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13 19. (Original) A computer software architecture as recited in claim 17, wherein
14 the constraint hierarchy comprises a constraint layer that contains legally mandated
15 constraints to constrain operation of the application according to legal principles.

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17 20. (Original) A computer software architecture as recited in claim 17, wherein
18 the constraint hierarchy comprises a constraint layer that contains company-mandated
19 constraints to constrain operation of the application according to preferences of a
20 company that operates the application.

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22 21. (Original) A computer software architecture as recited in claim 17, wherein
23 the constraint hierarchy comprises a constraint layer that contains customer constraints to
24 constrain operation of the application according to preferences of customers.

1 22. (Original) A computer software architecture as recited in claim 17, wherein
2 the constraint hierarchy comprises a constraint layer that contains cultural constraints to
3 constrain operation of the application according to cultural aspects.
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5 23. (Original) A computer software architecture as recited in claim 17, wherein
6 the constraint hierarchy comprises a constraint layer that contains end user constraints to
7 constrain operation of the application according to preferences of an end user.
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9 24. (Original) A method comprising:
10 storing a hierarchy of constraints, each constraint being configured to constrain
11 operation of a server application; and
12 evaluating an operation of the server application in view of the hierarchy of
13 constraints to modify operation according to the constraints in the hierarchy.
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15 25. (Original) A method as recited in claim 24, further comprising adding or
16 removing constraints from the hierarchy to alter operation of the server application.
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18 26. (Original) A method as recited in claim 24, wherein the hierarchy of
19 constraints comprises constraints selected from a group of constraints comprising:

20 legally mandated constraints to constrain operation of the application according to
21 legal principles;

22 company-mandated constraints to constrain operation of the application according
23 to preferences of a company that operates the application;

24 customer constraints to constrain operation of the application according to
25 preferences of customers;

1 cultural constraints to constrain operation of the application according to cultural
2 aspects; and

3 end user constraints to constrain operation of the application according to
4 preferences of an end user.

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6 27. (Original) A method for operating a server application, comprising:

7 receiving requests from multiple clients;

8 processing the requests to produce replies;

9 structuring the reply to define how the reply will appear when presented at the
10 client; and

11 constraining said structuring according to a set of one or more constraints to
12 customize appearance of the reply, the constraints comprising:

13 legally mandated constraints to constrain appearance of the reply according to
14 legal principles;

15 company-mandated constraints to constrain appearance of the reply according to
16 preferences of a company that operates the application;

17 customer constraints to constrain appearance of the reply according to preferences
18 of customers;

19 cultural constraints to constrain appearance of the reply according to cultural
20 aspects; and

21 end user constraints to constrain appearance of the reply according to preferences
22 of an end user.

1 28. (Original) A method as recited in claim 27, further comprising adding or
2 removing constraints to change the set of constraints being applied to the structuring of
3 the reply.

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5 29. (Original) One or more computer-readable media comprising computer-
6 executable instructions that, when executed, direct an application server to:

7 generate replies in response to client requests; and

8 structure the replies according to a hierarchy of constraints to customize the
9 replies, the constraints comprising a combination of one or more following constraints:

10 legally mandated constraints to constrain appearance of a reply according to legal
11 principles;

12 company-mandated constraints to constrain appearance of the reply according to
13 preferences of a company that operates the application;

14 customer constraints to constrain appearance of the reply according to preferences
15 of customers;

16 cultural constraints to constrain appearance of the reply according to cultural
17 aspects; and

18 end user constraints to constrain appearance of the reply according to preferences
19 of an end user.

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21 30. (New) The server system as recited in claim 1, wherein the constraints are
22 expressed as metadata.

1 31. (New) The server system as recited in claim 1, wherein the constraints of one
2 constraint layer can have the effect of overriding the constraints of another, lower,
3 constraint layer.
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5 32. (New) The server system as recited in claim 1, wherein the constraints define
6 presentation aspects of a reply sent to a customer.
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